Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A diagnostic method for detecting at least one antibody directed against at least one primate immunodeficiency virus in a biological sample, comprising:

contacting a biological sample with (i) at least one detection multiple antigenic peptide comprising a portion of an immunodominant region of a transmembrane envelope protein of a primate immunodeficiency virus and (ii) at least one differentiation multiple antigenic peptide comprising a portion of a V3-loop of an envelope protein of a primate immunodeficiency virus, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise a core matrix and at least two linear antigenic sequences bonded to the core matrix, each linear antigenic sequence comprising less than about 16 amino acid residues; and

detecting the formation of any immune complex between the detection multiple antigenic peptide and the biological sample or between the differentiation multiple antigenic peptide and the biological sample, wherein formation of the immune complex with the detection multiple antigenic peptide indicates infection with a primate immunodeficiency virus and formation of the immune complex with the differentiation multiple antigenic peptide indicates infection with a particular type or strain of primate immunodeficiency virus.

Claim 2 (original): The method of claim 1, wherein the detection multiple antigenic peptide comprises a portion of the immunodominant region of the transmembrane protein gp41 or gp 36.

Claim 3 (original): The method of claim 1, wherein the differentiation multiple antigenic peptide comprises a portion of the V3-loop of the envelope protein gp120.

Claim 4 (original): The method of claim 2, wherein the differentiation multiple antigenic peptide comprises a portion of the V3-loop of the envelope protein gp120.

Claim 5 (original): The method of claim 1, wherein the linear antigenic peptide of the detection multiple antigenic peptide comprises a sequence

$X_1GCX_4X_5X_6X_7X_8CX_{10}T$

wherein X_1 is W, I or F;

X_4 is S, A or Q;

X_5 is G, D, F, W or N;

X_6 is K, R, M, S, A;

X_7 is A, V or Q;

X_8 is V, or I; and

X_{10} is Y, H or R.

Claim 6 (original): The method of claim 1, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise four linear antigenic sequences bonded to their respective core matrix.

Claim 7 (original): The method of claim 1, comprising detecting at least one SIV or SIV-like strain in the biological sample.

Claim 8 (original): The method of claim 4, comprising detecting at least one SIV or SIV-like strain in the biological sample.

Claim 9 (original): The method of claim 8, wherein there are a plurality of detection multiple antigenic peptides and a plurality of differentiation multiple antigenic peptides, and all recognized SIV strain epitopes are represented in at least one of the detection multiple antigenic peptide or the differentiation multiple antigenic peptide.

Claim 10 (original): The method of claim 1, wherein the biological sample comprises a serum sample or a plasma sample from a subject.

Claim 11 (original): The method of claim 1, wherein each linear antigenic sequence of the detection multiple antigenic peptide comprises about 5 to about 15 amino acid residues, and each linear antigenic sequence of the differentiation multiple antigenic peptide comprises about 5 to about 15 amino acid residues.

Claim 12 (original): The method of claim 1, wherein detecting formation of the immune complex comprises performing an enzyme immunoassay technique.

Claim 13 (original): The method of claim 12, wherein the enzyme immunoassay technique comprises an ELISA technique.

Claim 14 (original): The method of claim 1, wherein the method has a primate immunodeficiency virus-specific antibody detection specificity of at least about 95 %.

Claim 15 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 16 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises VLPVTIMSGLVFHSQ (SEQ ID NO: 15).

Claim 17 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises VLPVTIMAGLVFHSQ (SEQ ID NO: 16).

Claim 18 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises IKNIQLAAGYFLPVI (SEQ ID NO: 17).

Claim 19 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises EVSTISSTGLLFYYG (SEQ ID NO: 18).

Claim 20 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises HRNLNTANGAKFYYE (SEQ ID NO: 19).

Claim 21 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises VKGISLATGVFISLR (SEQ ID NO: 20).

Claim 22 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises IVSVPSASGLIFYHG (SEQ ID NO: 21).

Claim 23 (original): The method of claim 5, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises YRAVHMATGLSFYTT (SEQ ID NO: 22).

Claim 24 (original): The method of claim 1, wherein the linear antigenic peptide of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1), IGCANMQICRT (SEQ ID NO: 8), or FGCAWRQVCHT (SEQ ID NO: 9), or a sequence having at least 80% sequence identity to one or more of these sequences.

Claim 25 (original): The method of claim 1, wherein the linear antigenic peptide of the differentiation multiple antigenic peptide comprises one of SEQ ID NOS: 14-22 or a sequence having at least 80% sequence identity to one or more of those sequences.

Claim 26 (original): An enzyme immunoassay, comprising:

a first substrate to which is bound at least one detection multiple antigenic peptide comprising a portion of an immunodominant region of a transmembrane envelope protein of a primate immunodeficiency virus; and

a second substrate to which is bound at least one differentiation multiple antigenic peptide comprising a portion of a V3-loop of an envelope protein of a primate immunodeficiency virus;

wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise a core matrix and at least two linear antigenic sequences bonded to the core matrix, each linear antigenic sequence comprising less than about 16 amino acid residues.

Claim 27 (original): The immunoassay of claim 26, wherein the detection multiple antigenic peptide comprises a portion of the immunodominant region of the transmembrane protein gp41 or gp36, and the differentiation multiple antigenic peptide comprises a portion of the V3-loop of the envelope protein gp120.

Claim 28 (original): The immunoassay of claim 26, wherein each linear antigenic sequence of the detection multiple antigenic peptide comprises about 5 to about 15 amino acid residues, and each linear antigenic sequence of the differentiation multiple antigenic peptide comprises about 5 to about 15 amino acid residues.

Claim 29 (original): An enzyme immunoassay, comprising:

a first array of a plurality of detection multiple antigenic peptides comprising a portion of an immunodominant region of a transmembrane protein of a primate immunodeficiency virus; and

a second array of a plurality of differentiation multiple antigenic peptides comprising a portion of a V3-loop of an envelope protein of a primate immunodeficiency virus, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise a core matrix and at least two linear antigenic sequences bonded to the core matrix, each linear antigenic sequence comprising less than about 16 amino acid residues.

Claims 30-34 (canceled).

Claim 35 (original): The method of claim 1, wherein the detection multiple antigenic peptide is not from a human immunodeficiency virus and the differentiation multiple antigenic peptide is not from a human immunodeficiency virus.

Claim 36 (original): The immunoassay of claim 26, wherein the immunoassay does not include any detection multiple antigenic peptide from a human immunodeficiency virus and any differentiation multiple antigenic peptide from a human immunodeficiency virus.

Claim 37 (original): The method of claim 1, wherein the primate immunodeficiency virus is a simian immunodeficiency virus.

Claim 38 (original): The immunoassay of claim 26, wherein the primate immunodeficiency virus is a simian immunodeficiency virus.

Claim 39 (original): The method of claim 1, wherein the biological sample is from an HIV seronegative human.

Claim 40 (original): The method of claim 1, wherein the biological sample is from a simian.

Claim 41 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1).

Claim 42 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 43 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1) and the linear antigenic sequence of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 44 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence

$X_1GCX_4X_5X_6X_7X_8CX_{10}T$

wherein X_1 is W, I or F;

X_4 is S, A or Q;

X_5 is G, D, F, W or N;

X_6 is K, R, M, S, A;

X_7 is A, V or Q;

X_8 is V, or I; and

X_{10} is Y, H or R.

Claim 45 (new): The immunoassay of claim 26, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise four linear antigenic sequences bonded to their respective core matrix.

Claim 46 (new): The immunoassay of claim 26, wherein there are a plurality of detection multiple antigenic peptides and a plurality of differentiation multiple antigenic peptides, and all recognized SIV strain epitopes are represented in at least one of the detection multiple antigenic peptide or the differentiation multiple antigenic peptide.

Claim 47 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises VLPVTIMSGLVFHSQ (SEQ ID NO: 15).

Claim 48 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises VLPVTIMAGLVFHSQ (SEQ ID NO: 16).

Claim 49 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises IKNIQLAAGYFLPVI (SEQ ID NO: 17).

Claim 50 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises EVSTISSTGLLFYYG (SEQ ID NO: 18).

Claim 51 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises HRNLNTANGAKFYYE (SEQ ID NO: 19).

Claim 52 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises VKGISLATGVFISLR (SEQ ID NO: 20).

Claim 53 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises IVSVPSASGLIFYHG (SEQ ID NO: 21).

Claim 54 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises YRAVHMATGLSFYTT (SEQ ID NO: 22).

Claim 55 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1), IGCANMQICRT (SEQ ID NO: 8), or FGCAWRQVCHT (SEQ ID NO: 9), or a sequence having at least 80% sequence identity to one or more of these sequences.

Claim 56 (new): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises one of SEQ ID NOS: 14-22 or a sequence having at least 80% sequence identity to one or more of those sequences.

Claim 57 (new): The immunoassay of claim 29, wherein each linear antigenic sequence of the detection multiple antigenic peptide comprises about 5 to about 15 amino acid residues, and each linear antigenic sequence of the differentiation multiple antigenic peptide comprises about 5 to about 15 amino acid residues.

Claim 58 (new): The immunoassay of claim 29, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1) and the linear antigenic sequence of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 59 (new): The immunoassay of claim 29, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise four linear antigenic sequences bonded to their respective core matrix.